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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,748	12/18/2001	Stanley Joel Osher	03.002	9133

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EXAMINER	
COUSO, JOSE L	
ART UNIT	**PAPER NUMBER**
2621	

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/039,748	OSHER ET AL.	
	Examiner	Art Unit	
	Jose L. Couso	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 5-30* is/are rejected.

7)☒ Claim(s) *2-4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> **(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

2. Claims 1 and 5-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Greene et al. (U.S. Patent No. 4,906,940).

With regard to claim 1, Greene describes computing a numerical approximation to at least one of the slope, curvature, and/or another predetermined geometric feature, and storing the numerical approximation together with data values prescribed at certain predetermined locations (see figure 3, elements 18 and 22 and figure 13, element 106 [which illustrate the different modules], and see figure 5A and refer to column 38, lines 48-67 which describes a the gradient operations, the specific computations are discussed in detail in column 40, line 45 through 65; the equation correspond to "computing a numerical approximation to at least one of the slope, curvature, and/or another geometric feature); applying a suitable compression technique to the geometric feature (see figure 3, elements 22, figure 13, element 106 and figure 26, elements 136 and 140, and refer to column 8, lines 54-58; Greene normalizes the data by using statistics, parameters and properties of the data [as explained in column 153 through column 156, this corresponds to applicant's compression of the data); and retrieving the image (see figure 3, elements 106 and 112 and figure 27, elements 154, 156 and 160, all elements operate in conjunction, the reconstructed signal and the corresponding data is then displayed).

As to claim 5, Greene describes wherein the retrieving step is carried out by numerically solving an elliptic differential equation using a source term derived from a compressed version of the elliptic operator applied to the image, where appropriate boundary conditions are stored and used (refer for example to column 11, line 53 through column 12, line 6).

In regard to claims 6 and 20, Greene describes a gradient module configured to receive the surface data and generate a gradient signal (see figure 3, elements 18 and 22 and figure 13, element 106 [which illustrate the different modules], and see figure 5A and refer to column 38, lines 48-67 which describes a the gradient operations, the specific computations are discussed in detail in column 40, line 45 through 65), a compression module configured to receive the gradient signal and generate a compressed signal (see figure 3, elements 22, figure 13, element 106 and figure 26, elements 136 and 140, and refer to column 8, lines 54-58; Greene normalizes the data by using statistics, parameters and properties of the data [as explained in column 153 through column 156, this corresponds to applicant's compression of the data); and a reconstruction module configured to decompress the compressed signal to recover the gradient signal as a reconstructed signal(see figure 3, elements 106 and 112 and figure 27, elements 154, 156 and 160, all elements operate in conjunction, the reconstructed signal and the corresponding data is then displayed).

With regard to claims 7 and 15, Greene describes a module configured to store the compressed signal (see figure 3, element 36 and refer for example to column 16, lines 8-13).

As to claims 8 and 16, Greene describes a module configured to transmit the compressed signal (as illustrated for example in figures 27 and 28).

In regard to claims 9 and 17, Greene describes configured to operate in cooperation with a processor-based computer system (refer for example to column 38, lines 48-67).

With regard to claims 10, 18 and 26, Greene describes wherein the surface data comprises digital terrain elevation data (as clearly seen in figures 15-22).

As to claims 11, 19, 27 and 30, Greene describes an input/output channel in communication with avionics equipment and configured to provide elevation data to the avionics equipment generated from the reconstructed signal (see figure 28).

With regard to claims 12, 14, 21 and 29, Greene describes an integration module configured to generate reconstructed surface data from the reconstructed signal (see figure 3, elements 106 and 112 and figure 27, elements 154, 156 and 160, all elements operate in conjunction, the reconstructed data is displayed).

In regard to claims 13 and 28, Greene describes a first gradient module configured to receive the surface data and generate a first gradient signal (see figure 3, elements 18 and 22 and figure 13, element 106 [which illustrate the different modules], and see figure 5A and refer to column 38, lines 48-67 which describes a the gradient operations, the specific computations are discussed in detail in column 40, line 45 through column 42, line 65 [the examiner considers the x dimension gradient computation described in column 41 to correspond applicant's first gradient signal]); a second gradient module configured to receive the surface data and generate a second

gradient signal (see figure 3, elements 18 and 22 and figure 13, element 106 [which illustrate the different modules], and see figure 5A and refer to column 38, lines 48-67 which describes a the gradient operations, the specific computations are discussed in detail in column 40, line 45 through column 42, line 65 [the examiner considers the y dimension gradient computation described in column 41 to correspond applicant's second gradient signal]); a compression module configured to receive the second gradient signal and generate a compressed signal (see figure 3, elements 22, figure 13, element 106 and figure 26, elements 136 and 140, and refer to column 8, lines 54-58; Greene normalizes the data by using statistics, parameters and properties of the data [as explained in column 153 through column 156, this corresponds to applicant's compression of the data); and a reconstruction module configured to decompress the compressed signal to recover the second gradient signal as a reconstructed signal (see figure 3, elements 106 and 112 and figure 27, elements 154, 156 and 160, all elements operate in conjunction, the reconstructed signal and the corresponding data is then displayed).

With regard to claim 22, Greene describes wherein at least one of the steps of generating the gradient of the signal and generating the integrated signal is carried out by a numerical process (as clearly described in columns 41-42).

In regard to claims 23 and 25, Greene describes wherein at least one of the gradient and the integrated signal is generated to within a predetermined level of accuracy (as discussed for example in column 23-65).

With regard to claim 24, Greene describes wherein at least one of the steps of generating the gradient of the signal and generating the integrated signal is carried out by analytically (as clearly described in columns 41-42).

3. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yen, Hindman, Schuler et al., Johnson et al. and Wirtz et al. all disclose systems similar to applicant's claimed invention.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose L. Couso whose telephone number is (703) 305-4774. The examiner can normally be reached on Monday through Friday from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8576.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jlc
December 7, 2004

JOSE L. COUSO
PRIMARY EXAMINER